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ABSTRACT

The assessment of the changes in knowledge about aging is essential to the development of aging courses and curricula. The present instrument was designed to reliably and validly measure various areas of information about aging. An item pool was gathered by examining texts and printed materials and consulting with persons specializing in gerontology. Existing instruments were also surveyed and types of items, as well as areas covered, were examined. The first draft of the instrument was administered to both undergraduate and graduate classes in gerontology in the fields of nursing, sociology, social work, and residents in internal medicine. The initial draft was also administered to several undergraduate and graduate classes in courses unrelated to the field of gerontology. The resultant 100-item Iowa Aging Inventory was developed to have four 25-item subscales: financial, medical and biological, psychological, and social/living environment aspects of aging. Preliminary data show the inventory to be reliable and valid. The Iowa Aging Inventory, along with its subscale items and answers, is included. (Author/PN)

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The Development and Standardization of the Iowa Aging Inventory

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Abstract

The increasing concern for elderly's educational, counseling, and health services needs has had a corresponding development of training programs in gerontology as well as courses and workshops in many professional fields such as social work, nursing, medicine, and counseling. The obvious objectives of such training are to increase knowledge and promote realistic and positive attitudes about aging. The assessment of the changes in knowledge about aging is essential to the development of aging courses and curricula. However, all of the current instruments purporting to measure knowledge about aging are confounded by attitudinal scales based on the same items. Furthermore, these inventories are often rather brief and thus provide a very limited assessment of the subject's knowledge about aging. The present instrument was designed to reliably and validly measure various areas of information about aging. The 100 item Iowa Aging Inventory was developed to have four 25-item subscales: Financial, medical and biological, psychological, and social/living environment aspects of aging. Preliminary data show the Inventory to be reliable and valid.

Recently there has been a dramatic increase in the concern for and interest in the human service needs of aging individuals. The Federal government has established the Agency on Aging and is supporting many research studies and model programs. State agencies have established networks of local programs designed to meet the needs of older people. On many campuses programs have been developed to meet the health, educational and counseling needs of the elderly.

There has also been a corresponding development of training programs for professionals working with aging individuals. At the national level there now exists training programs on counseling the aged (e.g., Ganikos & Grad, 1979), educational curriculum programs such as Foundations for Gerontological Education (Johnson, Britton, Lang, Seltzer, & Stanford, 1980)., and professional educational organizations (e.g., Association for Gerontology in Higher Education). A number of departments and professional schools at most colleges and universities offer courses dealing with various aspects of aging. Multidisciplinary degree programs and certificate programs in aging studies have been developed to meet the training needs of educators and helping professionals to work with the elderly.

Included among the purposes of these courses and training programs are (1) to increase the student's knowledge as well as (2) to promote realistic and positive attitudes about aging. It is important to assess such knowledge and attitudes about aging to determine the needs for and effectiveness of such training programs

and courses, but at the present time truly adequate assessment measures do not exist. The purpose of this study then was to construct reliable and valid instruments to assess knowledge of aging and attitudes toward the aged.

Few attempts have been made to measure both attitudes and information about aging. Two early assessment instruments that were developed (Kogan, 1961; Tuckman & Lorge, 1952) have come under sharp criticism (Palmore, 1977) although they nevertheless have enjoyed widespread use. Palmore criticized them for three different reasons: (1) they were somewhat lengthy, (2) the supposedly factual statements were not documented by empirical support leaving only the authors' claims as to their correctness as the criterion for evaluating responses and (3) the most serious problem was the confusion of factual statements with attitudinal statements making performance evaluation suspect.

The instrument, therefore, that is now most often used is Palmore's Facts on Aging Quiz (FAQ) (1977). It consists of 25 true-false items requiring less than ten minutes to complete. The FAQ was designed to assess some of the basic physical and social facts and also the most common misconceptions about aging. Additionally, it was designed to stimulate group discussion and also be an indirect measure of bias toward aging. Validity was demonstrated by those with increasing levels of education in gerontology tending to receive progressively better scores.

The validity of the FAQ was challenged by Klemmack (1978) who reported that among a group of 200 adults he found very low item to total correlations for most items and with a large number of items having negative correlational values. He suggested that stereotypical attitudes toward aging may be the primary factor determining the subjects' scores on the FAQ. Palmore (1978) responded that the purpose of his FAQ is "edumetric," that is, to provide directly interpretable information rather than its primary purpose being psychometric in nature.

Recently Palmore (1980) reviewed over 25 studies using the FAQ. He suggested that the reliability of the instrument was demonstrated by the similarity of mean scores for groups of comparable educational backgrounds and by the consistency of the level of FAQ's scores which correspond to level of education and gerontology experience. He has thus continued his claim that the FAQ is reliable, valid, and has utility as an aging attitude and knowledge test instrument.

Miller and Dodder (1980) have strongly criticized the FAQ feeling it has a number of weaknesses. Their chief complaints were that several items have ambiguous terminology or ambiguous phrasing and that the positive bias scores receive weighting from only 5 items compared with 16 items which measure negative bias. They have therefore suggested that the wording in the FAQ may be a critical factor, rather than aging knowledge per se in answering the items on the FAQ.

Previous attempts to build such an instrument seem to indicate that a psychometrically sound assessment measure can be constructed but

these previous attempts which have attempted to use the same items to measure both information and attitudes are likely doomed to failure. Based on this prior work it was felt that with the resources and knowledge available here on The University of Iowa campus, an instrument composed of several scales could be constructed. It was felt that such an instrument would be welcomed as a major contribution to the field of educational gerontology.

Construction of the Inventory

An initial item pool of several hundred items was gathered by examining various texts and other printed materials in the field of gerontology as well as by consulting with persons in different areas of gerontology. Existing instruments were also surveyed and types of items as well as areas covered were examined. The resulting over 200 items were written in a true-false format and submitted to four judges knowledgeable in the field of gerontology, who rated the potential usefulness of each item and suggested changes necessary for the item.

The items were then grouped into four different categories representing four different areas within the field of gerontology. These four categories were as follows: 1) medical and biological aspects, 2) psychological aspects, 3) financial aspects, 4) social aspects/living environment. The four judges were also to place each item into one of these categories. Those items on which the judges agreed in regard to potential usefulness and on the category

into which it fell were then included in the first draft of the instrument.

The resulting first draft of the instrument was administered to various groups which included both undergraduate and graduate classes in gerontology in the fields of nursing, sociology, social work, and residents in internal medicine. The initial draft was also administered to several undergraduate and graduate classes in courses unrelated to the field of gerontology. Item analyses were carried out and from these results, an instrument containing four 25-item scales which measure knowledge about aging and the aged in each of the four categories.

Results and Discussion

Preliminary results regarding the instrument's psychometric properties indicate that the instrument has potential as a reliable and solid measure of aging knowledge. The whole test reliability coefficients (Kuder-Richardson) were 0.77 for gerontoloty students (N = 52) and 0.67 for the nongerontology sample (N = 101). The four subscales had reliability coefficients ranging from 0.20 to 0.56 for nongerontology students and 0.26 to 0.57 for gerontology students. The financial subscale reliability coefficients of 0.20 and 0.26 respectively were somewhat less than adequate although not surprising for a 25-item scale.

The mean difficulty indices for both subject groups for the four subscales and overall test were in the desired range. Values for the preliminary validation ranged from 63.04 to 71.44.

The mean discrimination indices ranged from 0.23 to 0.29 for the nongerontology subjects on the subscales and 0.18 overall, while gerontology subjects had indices of 0.24 to 0.30 for the subscales and an overall of 0.20. While the subscale discrimination indices are adequate for a preliminary instrument, the overall discrimination indices are a little low.

Validity for the preliminary form of the Iowa Aging Inventory was assessed by comparing the mean scores of the students in the Aging Studies program with nongerontology students. Results showed that Aging Studies students performed significantly better than non-gerontology students on the financial ($t = 2.04$, $p < .05$), sociological ($t = 3.91$, $p < .001$), and psychological subscales ($t = 2.08$, $p < .05$) and the overall test ($t = 3.42$, $p < .002$). The difference in mean scores on the biological subscale resulted in a t-test value of 1.54, $p < .07$.

These preliminary data offer support for the continued development of the Iowa Aging Inventory. The majority of the assessments of the test's psychometric properties showed adequate test characteristics. From this beginning, additional research and testing is in progress and will be further developed to demonstrate the reliability, validity, and usefulness of the Iowa Aging Inventory. Specific plans include testing groups of differing levels of training and experience in gerontology, test-retest assessment, and pre- post-course sensitivity to varying educational experiences in gerontology, and comparison with Palmore's FAQ.

The Iowa Aging Inventory

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Subscale Items and Answers

Financial	Biological	Psychological	Sociological
4 (F)	11 (T)	1 (F)	6 (T)
5 (T)	14 (T)	2 (F)	8 (T)
7 (F)	18 (T)	3 (F)	9 (T)
12 (T)	19 (F)	10 (F)	16 (F)
15 (T)	20 (T)	13 (F)	17 (T)
25 (F)	23 (T)	22 (F)	21 (T)
31 (F)	26 (T)	29 (T)	24 (T)
39 (T)	30 (T)	35 (T)	27 (T)
43 (F)	33 (T)	37 (F)	28 (F)
45 (T)	36 (T)	41 (T)	32 (T)
51 (T)	38 (T)	44 (T)	34 (F)
55 (F)	42 (T)	47 (T)	40 (F)
59 (T)	48 (T)	49 (F)	46 (F)
62 (T)	50 (T)	52 (F)	53 (T)
67 (F)	54 (T)	57 (T)	56 (T)
72 (T)	58 (F)	60 (T)	63 (T)
75 (T)	66 (T)	61 (F)	70 (F)
80 (T)	68 (T)	64 (F)	76 (F)
81 (T)	69 (T)	65 (T)	77 (T)
84 (T)	71 (T)	73 (F)	82 (F)
86 (T)	74 (T)	78 (T)	89 (T)
90 (T)	79 (F)	83 (T)	92 (T)
94 (F)	85 (F)	87 (T)	96 (T)
97 (F)	88 (F)	91 (F)	98 (F)
100 (F)	93 (T)	95 (T)	99 (F)

Easy Answer Scoring:

The answer pattern is relatively simple: the first and last four questions are false, the pattern in between is true, true, false, true, true, false, etc.

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The Iowa Aging Inventory

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Instructions:

Throughout the inventory you will see the elderly referred to using many different phrases (i.e., older person, aged, elderly, etc.). Unless otherwise noted, these phrases will refer to persons over the age of sixty.
Please respond to each question with either a true or false answer.

1. Younger people generally have pretty positive attitudes towards the elderly.
2. Brain problems in later life are basically not treatable.
3. Most old people are set in their ways and unable to change.
4. Today elderly women have approximately the same income as elderly males.
5. The mobility problems of the older population are exacerbated by automobile insurance restrictions.
6. The use of public transportation is slightly higher for the elderly than any other age group.
7. The combination of Medicare and Medicaid allow the elderly to pay for preventive health care.
8. Nursing homes and homes for the aged house about 97% of the elderly who live in institutions.
9. The overwhelming majority of those who retire stay in approximately the same geographic location.
10. When elderly are asked to compare their health with others their own age, the overwhelming majority rate their health as 'fair' to 'poor'.
11. Generally, an older patient with cancer has a better prognosis than a young patient with the same type of cancer.
12. In 1975, almost 30% of the national health care expenditures were spent on health care for the elderly, though they comprise only about 10% of the total population.
13. If an older person chooses to change his/her environmental setting in later life, the experience will not cause an emotional crisis.
14. All five senses tend to decline in old age.
15. Nine out of ten older Americans draw retirement benefits from social security.
16. More of the aged vote than any other age group.
17. The older population is increasingly female dominant.
18. As one ages muscles are weaker because of the increase in the proportion of fat cells in muscle tissues.
19. Medicare is a comprehensive social health care program designed to finance health care to the poor regardless of age.
20. Approximately 40% of all hospital beds are filled by people over the age of 65.

21. Only 39% of older women are married, while nearly 79% of older men are married.

22. It is clear from the bulk of research done that mental illness increases after retirement.

23. Hearing loss can cause emotional illness.

24. Only one in twenty older persons is institutionalized.

25. In 1975 Harris & Assoc. found that a large majority of both the older population and the general public felt that people should be forced to retire regardless of the personal or economic situation.

26. Decreased muscular strength is responsible for much of the difficulty old people have in such activities as walking upstairs, lifting things, or rising from a low chair.

27. Increases in life expectancies are primarily a reflection of decreased mortality at younger ages rather than increased longevity after age 65.

28. Since the turn of the century, the number of persons who continue to work past age 65 has increased.

29. One of four suicides in the U.S. is committed by persons age 65 and over.

30. Although there is a decline in the manufacture of both sperm and testosterone by the testes with age, viable sperm may still be produced at age 90.

31. About 2/3 of health care expenditures for the elderly are paid for by the elderly and about 1/3 is covered by public financing.

32. A higher percent of older men than older women live in a family setting.

33. Cardio-vascular disease is a leading cause of death in the older population.

34. Most older workers can not work as effectively as younger workers.

35. Old people usually take longer to learn something new.

36. Height may decrease as reduction of calcium in bones causes softening and compression of the vertebrae.

37. Older people tend to become more religious as they age.

38. The enlargement of the prostate gland is one of the most common physical problems for elderly men.

39. The rate of poverty among aged blacks is about three times as high as among aged whites.

40. The health and socioeconomic status of older people (compared to younger people) in the year 2000 will probably be about the same as it is now.

41. About 80% of those elderly who need mental health services will not receive them.

42. Genetically, aging can be seen either as preprogrammed by inherited genes or as a result of changes in DNA that occur with age.

43. The economic needs of the elderly however, are approximately one-half of those for younger persons.

44. The incidence of psychopathology increases with advancing age.

45. In 1974, Congress passed the Employee Retirement Income Security Act (ERISA), which seeks to protect workers from losing their pension rights by placing federal controls over vesting and financing of private pensions.

46. The majority of aged live alone.

47. The perceived or real threat of criminal assault restricts the lifestyle and mobility of older people.

48. The older adult can die from lowered body temperature without ever feeling cold.

49. Drug therapy is the best way to alleviate depression and other emotional problems in old age.

50. About 80% of the aged are healthy enough to carry out their normal activities.

51. For 80% of retired Americans social security is the sole source of income.

52. It is not normal for older persons to continually talk about the old days.

53. There are proportionately more older persons in public office than in the general population.

54. Most medical practitioners tend to give low priority to the aged.

55. The U.S. ranks first in relation to the rest of the world in terms of retirement benefits offered by social security.

56. The proportion of blacks among the aged is growing.

57. Masters and Johnson (1966) concluded that except in cases of drastic physical infirmity, the greatest causative factor in decline of sexual behavior is sociopsychological rather than biological in nature.

58. In most older people circulation is poor.

59. An employee is 'vested' at the point he or she is guaranteed a share of the employer's private pension fund.

60. The general belief that sexual feelings and needs cease to be a part of the development of people over the age of 60 is largely a myth.

61. The majority of old people (past age 65) are senile, (i.e., defective memory, disoriented, or demented).

62. Social security benefits automatically increase with inflation.

63. Older workers have fewer accidents than younger workers.

64. The majority of old people are socially isolated and lonely.

65. Older adults generally have pretty positive attitudes towards themselves.

66. Drugs are more dangerous in age because toxins in the blood are not filtered out as efficiently as in younger year.

67. The overall incomes of older couples are less adequate than those for single Americans.

68. Older persons need not be restricted visually by cataracts; 95% of all cataract surgery is successful.

69. Although individuals vary considerably with regards to rates of senescence, those with similar heredity show similarities in senescence.

70. At least 10% of the aged are living in long-stay institutions (i.e., nursing homes, mental hospitals, homes for the aged, etc.)

71. The "wear and tear" theory of aging suggests that the body is like a machine and eventually its parts wear out and the machine breaks down.

72. Poverty in the older population has since 1959 been decreasing at a faster rate than among the population as a whole.

73. Older persons who reduce their activity tend to be happier than those who remain equally active.

74. Chronic illness is more common in the elderly than acute illness.

75. Older members of racial or ehtnic minorities are more likely to experience poverty.

76. Participation in voluntary organizations (churches and clubs) tends to decline among the healthy aged.

77. Older workers have less absenteeism than younger workers.

78. The aged are more fearful of crimes than persons under age 65.

79. The majority of older persons require hospitalization during the course of any one year.

80. The most common source of income for the aged is social security.

81. Supplemental Security Income (SSI) guarantees a minimum income for the needy aged.

82. Over 15% of the U.S. population are now age 65 or over.

83. The majority of old people are seldom irritated or angry.

84. The older population can generally be described as a low-income group.

85. As people age the lower pitch sounds give them the most difficulty in hearing.

86. Supplemental Security Income (SSI) has played a major role in reducing dire poverty among elderly Americans.

87. Approximately 70% of retired people seldom or never feel useless contrary to popular belief.

88. It is estimated that only about 5% of cases of acute dimentia or confusion are due to a physical cause.

89. Residents of nursing homes are largely the very elderly, female, white, and widowed.

90. Approximately two out of three aged black women are classified as poor.

91. The condition of senility is an inevitable consequence of old age.

92. Aged drivers have fewer accidents per person than drivers under age 65.

93. Older people need a greater proportion of protein in their diets.

94. The elderly are less likely to own their own homes than are the non-elderly.

95. Contrary to popular belief, most people continue to do in retirement the same kinds of things they did when they were working.

96. The aged are the most law abiding of all adult groups.

97. Health costs are the number one financial expenditure for the elderly.

98. More institutions are needed since a large number of elderly that are not institutionalized need to be.

99. Sensory impairment makes it impractical for older persons (after age 70) to live alone.

100. The major inhibition towards the use of public transportation by the elderly is cost.